Propeller Wall Fans

Installalation, Operation, And Maintenance Manual

This installation manual provides information for installing and configuring the Loren Cook Company Propeller Wall Fans.

- XWD
- XWHD
- XPD
- XPHD
- XLW / XMW
- XLWH / XMWH
- XLP / XLPH
- XMP / XMPH
- AWD
- AWB
- APD
- APB
- EWD
- EWB
- EPD
- EPB
- SWD
- SPB
- SPD

Exhaust & supply models

XLWH shown

⚠WARNING

Rotating Parts & Electrical Shock Hazard

Disconnect electric power before working on unit.

Follow proper lockout / tagout procedures to ensure the unit cannot be energized while being installed or serviced.

A disconnect switch should be placed near the fan in order that the power can be swiftly cut off, in case of an emergency and in order that maintenance personnel are provided complete control of the power source.

Grounding is required. All field-installed wiring must be completed by qualified personnel. All field installed wiring must comply with National Electric Code (NFPA 70) and all applicable local codes.

Failure to follow these instructions could result in death or serious injury.

⚠ **Carefully read this publication and any supplemental documents prior to any installation or maintenance procedure.**

Loren Cook Company's *Propeller Wall* catalog provides additional information describing the equipment, fan performance, available accessories and specification data. For information and instructions on special equipment, contact Loren Cook Company.

For additional safety information, refer to AMCA publication 410-96, Safety Practices for Users and Installers of Industrial and Commercial Fans. This document and all Cook publications may be obtained from Cook by phoning (417) 869-6474, extension 166; by FAX at (417) 832-9431; or by e-mail at info@LorenCook.com. All Cook publications are available on LorenCook.com.

Receiving and Inspection

Carefully inspect the unit and accessories for any damage and shortage immediately upon receipt of the unit.

- Turn the propeller by hand to ensure it turns freely and does not bind.
- Record on the Delivery Receipt any visible sign of damage.

Handling

Lift propeller wall fans by attachment to the power assembly or by the shipping carton. Never lift by the shaft, motor or housing.

Storage

If the fan is stored for any length of time prior to installation, coat the shaft with grease or a rust preventative compound. Store it in its original shipping crate and protect it from dust, debris and the weather.

Rotate the wheel several revolutions every three to five days to keep a coating of grease on all internal bearing parts.

Installation

Fans mounted to a wall require a different wall opening size than fans mounted in wall collars or wall housings. For specific dimensions, refer to the submittal drawing for the specific fan type.

Motor Installation

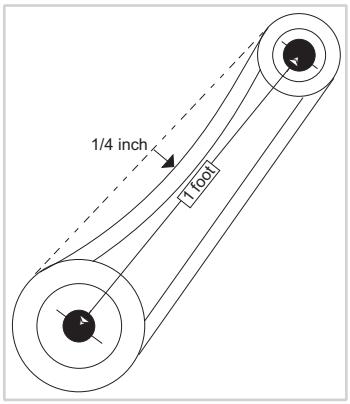
To prevent damage to the fan during shipping, motors 5 HP and larger, and extremely heavy motors (cast iron or severe duty) are shipped loose and must be field mounted by bolting the motor on the motor mounting plate in the existing slots.

The motor should be mounted in order that the motor plate is between the fan shaft and the motor shaft.

1. Remove the motor plate mounting bolts and motor plate.

2. Remove the motor mounting bolts from the motor plate.
3. Mount the motor to the motor plate aligning the appropriate holes.
4. Place the motor plate on the power assembly and reinstall the mounting bolts.

Belt and Pulley Installation



Belt tension is determined by the sound of the belts when the fan is first started. The belts will produce a loud squeal, which dissipates after the fan is operating at full capacity. If belt tension is too tight or too loose, lost efficiency and damage can occur.

Do not change the pulley pitch diameter to change tension. The change will result in a different fan speed.

1. Loosen the motor plate adjustment nuts on motor base and move motor plate in order that the belts can easily slip into the grooves on the pulleys. Never pry, roll, or force the belts over the rim of the pulley.
2. Adjust the motor plate until proper tension is reached. For proper tension, a deflection of approximately 1/4" per foot of center distance should be obtained by firmly pressing the belt. See drawing to the right.
3. Lock the motor plate adjustment nuts in place.
4. Ensure pulleys are properly aligned. See next section.

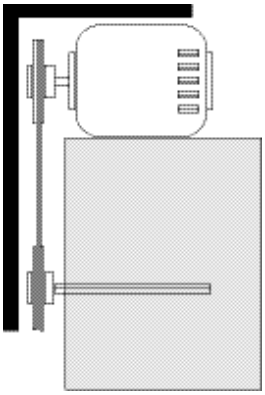


Figure 3

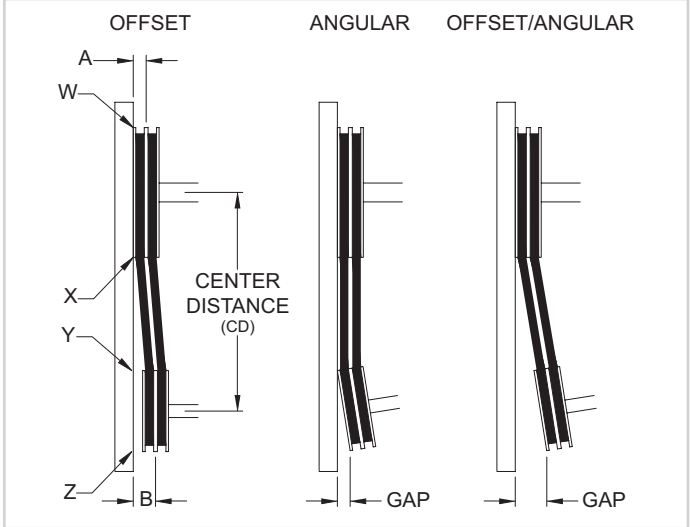
Pulley Alignment

Pulley alignment is adjusted by loosening the motor pulley setscrew and by moving the motor pulley on the motor shaft.

The drawing below indicates where to measure the allowable gap for the drive alignment tolerance. All contact points (indicated by WXYZ) are to have a gap less than the tolerance shown in the table. When the pulleys are not the same width, the allowable gap must be adjusted by half of the difference in width. Figure 3 illustrates using a carpenter's square to adjust the position of the motor pulley until the belt is parallel to the longer leg of the square.

Tolerance

Center Distance	Maximum Gap
Up thru 12"	1/16"
12" up through 48	1/8"
Over 48"	1/4"



Installation

Insert the fan into the wall opening and secure with lag screws, anchor bolts, or other suitable fasteners.

Always mount belt drive wall fans in order that the motor base is below the fan shaft.

Wiring

⚠WARNING

Proper Electrical Safety Habits

Correctly label the circuit on the main power box and always identify a closed switch to promote safety (i.e., red tape over a closed switch).

All wiring should be in accordance with local ordinances and the National Electrical Code, NFPA 70. Ensure the power supply (voltage, frequency, and current carrying capacity of wires) is in accordance with the motor nameplate. Follow the wiring diagram in the disconnect switch and the wiring diagram provided with the motor.

Leave enough slack in the wiring to allow for motor movement when adjusting belt tension. Some fractional motors have to be removed in order to make the connection with the terminal box at the end of the motor.

Wall Fans

1. Extend wires to the fan.
2. Prevent excess wire from entering the shaft and propeller area by restraining the excess wire to a point outside the base.

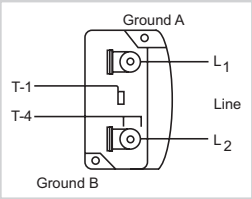
Wall Fans with Wire Guard

1. Remove end panel from the wire guard to gain access to the motor.
2. Extend wires through a side panel of the wire guard to gain access to the motor.
3. Prevent excess wire from entering the shaft and propeller area by restraining the excess wire to a point outside the base.

Wall Fans with Wall Housing

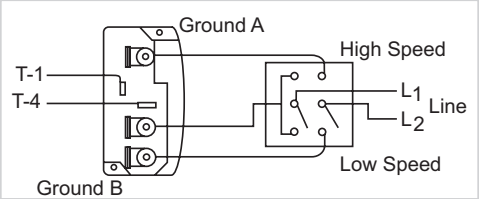
1. Remove end guard from the wall housing.
2. Drill a hole through either side panel at a convenient location and pull the wires through. Do not pull wires through wire guard at the back panel.
3. Restrain the incoming wire at the side panel to prevent excess wire from entering the shaft and propeller area.

Single Speed, Single Phase Motor



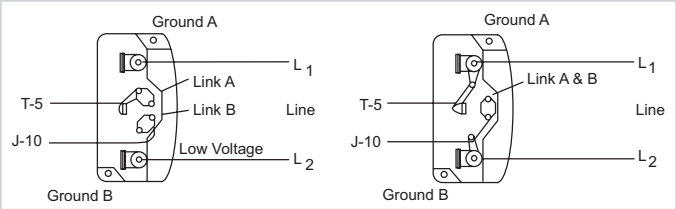
When ground is required, attach to ground A or B with no. 6 thread forming screw. To reverse, interchange T-1 and T-4.

2 Speed, 2 Winding, Single Phase Motor



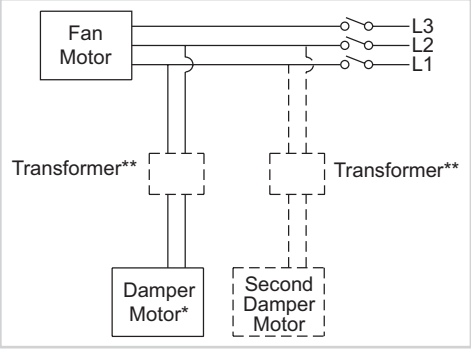
When ground required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-1 and T-4 leads.

Single Speed, Single Phase, Dual Voltage



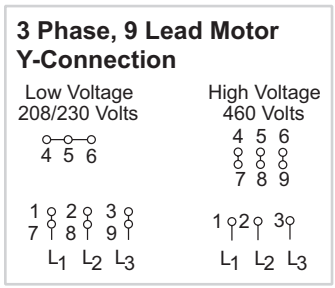
When ground required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-5 and J-10 leads.

Typical Damper Motor Schematic



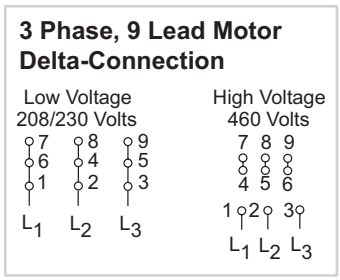
For 3 phase, damper motor voltage should be the same between L1 and L2. For single phase application, disregard L3. *Damper motors may be available in 115, 230 and 460 volt models. The damper motor nameplate voltage should be verified prior to connection. **A transformer may be provided in some installations to correct the damper motor voltage to the specified voltage.

3 Phase, 9 Lead Motor Y-Connection



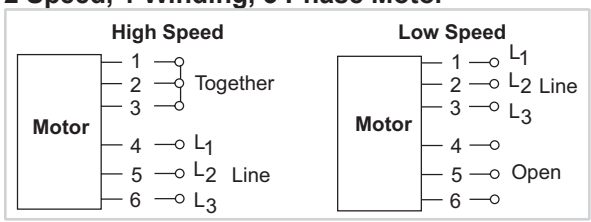
To reverse, interchange any 2 line leads.

3 Phase, 9 Lead Motor Delta-Connection



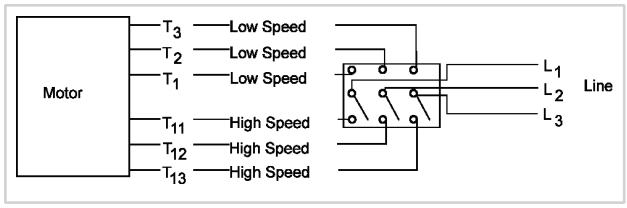
To reverse, interchange any 2 line leads.

2 Speed, 1 Winding, 3 Phase Motor



To reverse, interchange any 2 line leads. Motors require magnetic control.

2 Speed, 2 Winding, 3 Phase



To reverse: High Speed-interchange leads T11 and T12.

Low Speed-interchange leads T1 and T2. Both Speeds-interchange any 2 line leads.

Shutters

If your fan is supplied with a shutter, follow the direction below. If your fan is not supplied with a shutter, proceed to Final Installation Steps.

To ensure long-life, make a weather-proof seal by using a good quality silicon caulking under the shutter flange.

1. Place the shutter into the wall opening.
2. Mount the shutter to the supporting surface using Number 12 sheet metal screws on six inch centers around the perimeter.
3. Manually operate the shutter to ensure the blades move freely.

Typical Installation

Refer to page 8.

Final Installation Steps

1. Inspect fasteners and setscrews, particularly fan mounting and bearing fasteners, and tighten according to the recommended torque shown in the table on page 4, Recommended Torque for Setscrews/Bolts.
2. Inspect for correct voltage with voltmeter.
3. Ensure all accessories are installed.
4. Test the fan to be sure the rotation is the same as indicated by the arrow marked Rotation.

⚠CAUTION

Proper Rotation

Do not allow the fan to run in the wrong direction. This will overheat the motor and cause serious damage. For 3-phase motors, if the fan is running in the wrong direction, check the control switch. It is possible to interchange two leads at this location so that the fan is operating in the correct direction.

Operation

Pre-Start Checks

1. Lock out all the primary and secondary power sources.
2. nspect fasteners and setscrews, particularly those used for mounting the unit, and tighten if necessary.
3. Inspect belt tension and pulley alignment. (Remember, if belt tension is correct, a loud squeal occurs as the fan increases to full power.)
4. Inspect motor wiring.
5. Ensure the belt touches only the pulleys.
6. Rotate the prop to ensure it does not rub against the venturi.
7. Ensure fan and ductwork are clean and free of debris.
8. Test the fan to ensure the rotation of the propeller is the same as indicated by the rotation label.
9. Close and secure all access doors.
10. Restore power to unit.

Start Up

Turn the fan on. In variable speed units, set the fan to its lowest speed. Inspect for the following:

- Direction of rotation.
- Excessive vibration.
- Unusual noise.
- Bearing noise.
- Improper belt alignment or tension (listen for a continuous squealing noise).
- Improper motor amperage or voltage.

NOTICE! If a problem is discovered, immediately shut off the fan. Lock out all electrical power and check for the cause of the trouble. Refer to Troubleshooting

Recommended Torque for Setscrews/Bolts

In. - Lb.

Setscrews				Hold Down Bolts	
Size	Key Hex Across Flats	Recommended Torque		Recommended Torque	
		Min.	Max.	Size	Wrench Torque
No.10	3/32”	28	33	3/8”-16	240
1/4”	1/8”	66	80	1/2”-13	600
5/16”	5/32”	126	156	5/8”-11	1200
3/8”	3/16”	228	275	3/4”-10	2100
7/16”	7/32”	348	384	7/8”-9	2040
1/2”	1/4”	504	600	1”-8	3000
5/8”	5/16”	1104	1200	1-1/8”-7	4200
3/4”	3/8”	1440	1800	1-1/4”-7	6000

Inspection

Inspection of the fan should be conducted at the first 30 minute, 8 hour and 24 hour intervals of satisfactory operation. During the inspections, stop the fan and inspect as per directions below.

30 Minute Interval

Inspect bolts, setscrews, and motor mounting bolts. Adjust and tighten as necessary.

8 Hour Interval

Inspect belt alignment and tension. Adjust and tighten as necessary.

24 Hour Interval

Inspect belt tension. Adjust and tighten as necessary.

Maintenance

Establish a schedule for inspecting all parts of the fan. The frequency of inspection depends on the operating conditions and location of the fan.

Inspect fans exhausting corrosive or contaminated air within the first month of operation. Fans exhausting contaminated air (airborne abrasives) should be inspected every three months. Clean the propeller and air inlets if material build-up is excessive. Excessive build-up can cause imbalance and failure of the propeller. Regular inspections are recommended for fans exhausting non-contaminated air. It is recommended the following inspections be conducted twice per year.

• Inspect bolts and setscrews for tightness. Tighten as necessary.

• Inspect belt wear and alignment. Replace worn belts with new belts and adjust alignment as needed. See Belt and Pulley Installation, on page 2.

• Bearings should be inspected as recommended in the Conditions Chart, below.

• Inspect for cleanliness. Clean exterior surfaces only. Removing dust and grease on motor housing assures proper motor cooling.

Lubricants

Loren Cook Company uses petroleum lubricant in a lithium base conforming to NLGI grade 2 consistency. Other grades of grease should not be used unless the bearings and lines have been flushed clean. If another grade of grease is used, it should be lithium-based.

A NLGI grade 2 grease is a light viscosity, low-torque, rust-inhibiting lubricant that is water resistant. Its temperature range is from -30°F to +200°F and capable of intermittent highs of +250°F.

Motor Bearings

Motors are provided with prelubricated bearings. Any lubrication instructions shown on the motor nameplate supersede instructions below.

Direct Drive 1050/1075,1200,1300 &1500 rpm units use a prelubricated sleeve bearing that has a oil saturated wicking material surrounding it. The initial factory lubrication is adequate for up to 10 years of operation under normal conditions. However, it is advisable to add lubricant after 3 years. Use only LIGHT grade mineral oil or SAE 10W oil up to 30 drops. If the unit has been stored for a year or more it is advisable to lubricate as directed above. For units in severe conditions, lubrication intervals should be reduced to half.

Motors without sleeve bearings (as described above) will have grease lubricated ball or roller bearings. Motor bearings without provisions for relubrication will operate up to 10 years under normal conditions with no maintenance. In severe applications, high temperatures or excessive contaminates, it is advisable to have the maintenance department disassemble and lubricate the bearings after 3 years of operation to prevent interruption of service.

For motors with provisions for relubrication, follow intervals of the table below.

Relubrication Intervals

Service Conditions	NEMA Frame Size					
	Up to and including 184T		213T-365T		404T and larger	
	1800 RPM and less	Over 1800 RPM	1800 RPM and less	Over 1800 RPM	1800 RPM and less	Over 1800 RPM
Standard	3 yrs.	6 months	2 yrs.	6 months	1 yr.	3 months
Severe	1 yr.	3 months	1 yr.	3 months	6 months	1 months

Motors are provided with a polyurea mineral oil NGLI #2 grease. All additions to the motor bearings are to be with a compatable grease such as Exxon Mobil Polyrex EM and Chevron SRI.

The above intervals should be reduced to half for vertical shaft installations.

Fan Bearings

The fan bearings are provided prelubricated. Any specialized lubrication instructions on fan labels supersedes information provided herein. Bearing grease is a petroleum lubricant in a lithium base conforming to a NLGI #2 consistency. If user desires to utilize another type of lubricant, they take responsibility for flushing bearings and lines, and maintaining a lubricant that is compatible with the installation.

A NLGI #2 grease is a light viscosity, low-torque, rust-inhibiting lubricant that is water resistant. Its temperature range is from -30°F to 200°F and capable of intermittent highs of 250°F.

Bearings should be relubricated in accordance with the condition chart below.

For best results, lubricate the bearing while the fan is in operation. Pump grease in slowly until a slight bead forms around the bearing seals. Excessive grease can damage seal and reduce life through excess contamination and/or loss of lubricant.

In the event that the bearing cannot be seen, use no more than three injections with a hand operated grease gun.

Conditions Chart

RPM	Temp °F	Greasing Interval
Up to 1000	-30 to 120	6 months
	120 to 200	2 months
1000 to 3000	-30 to 120	3 months
	120 to 200	1 month
Over 3000	-30 to 120	1 month
	120 to 200	2 weeks
Any Speed	< -30	Consult Factory
Any Speed	> 200	1 week

For moist or otherwise contaminated installations; divide the interval by a factor of 3. For vertical shaft installations divide the interval by a factor of 2.

Motor Services

Should the motor prove defective within a one-year period, contact your local Loren Cook representative or your nearest authorized electric motor service representative.

Changing Shaft Speed

All belt driven Propeller Wall fans with motors up to and including 5HP are equipped with variable pitch pulleys. To change the fan speed, perform the following:

a. Loosen setscrew on driver (motor) pulley and remove key, if equipped.

b. Turn the pulley rim to open or close the groove facing. If the pulley has multiple grooves, all must be adjusted to the same width.

c. After adjustment, inspect for proper belt tension.

Speed Reduction

Open the pulley in order that the belt rides deeper in the groove (smaller pitch diameter).

Speed Increase

Close the pulley in order that the belt rides higher in the groove (larger pitch diameter). Ensure that the RPM limits of the fan and the horsepower limits of the motor are maintained.

Maximum RPM

EWB Size	Maximum RPM	AWB Size	Maximum RPM	APB Size	Maximum RPM
24	1675	24	1510	24	1005
30	1370	30	1145	30	800
36	1310	36	990	36	645
42	1175	42	905	42	660
48	1215	48	900	48	605
54	960	-	-	-	-
60	890	-	-	-	-
72	700	-	-	-	-

XLP/ XLPS Size	Maximum RPM	XLPH/ XLPHS Size	Maximum RPM
20	1280	-	-
24	1012	24	1100
30	666	30	1074
36	566	36	895
42	424	42	870
48	356	48	761
54	316	54	472
60	260	60	446

XMP/ XMPS Size	Maximum RPM	XMPH/ XMPHS Size	Maximum RPM
20	1280	-	-
24	1276	24	1385
30	830	30	1175
36	680	36	948
42	498	42	829
48	414	48	726
54	346	54	522
60	318	60	530

XLW/ XLWS Size	Maximum RPM	XLWH/ XLWHS Size	Maximum RPM
20	1276	-	-
24	1018	24	1126
30	674	30	1074
36	570	36	895
42	422	42	870
48	356	48	761
54	320	54	478
60	256	60	438

XMW/ XMWHS Size	Maximum RPM	XMWH/ XMWHS Size	Maximum RPM
20	1462	-	-
24	1272	24	1385
30	860	30	1175
36	672	36	948
42	498	42	829
48	416	48	726
54	350	54	522
60	320	60	530

Pulley and Belt Replacement

1. Clean the motor and fan shafts.
2. Loosen the motor plate mounting bolts to relieve the belt tension. Remove the belt.
3. Loosen the pulley setscrews and remove the pulleys from the shaft. **NOTICE! If excessive force is required to remove the pulleys, a three-jaw puller can be used. This tool, however, can easily warp a pulley. If the puller is used, inspect the trueness of the pulley after it is removed from the shaft. The pulley will need replacement if it is more than 0.020 inch out of true.**
4. Clean the bores of the pulleys and place a light coat of oil on the bores.
5. Remove grease, rust and burrs from the shaft.
6. Place fan pulley on the fan shaft and the motor pulley on the motor shaft. Damage to the pulleys can occur when excessive force is used in placing the pulleys on their respective shafts.
7. After the pulleys have been correctly placed back onto their shafts, tighten the pulley setscrews.
8. Install the belts on the pulleys. Align and adjust the belts to the proper tension as described in *Belt and Pulley Installation*, page 2

Bearing Replacement

The fan bearings are pillow block ball bearings.

1. Mark the position of the shaft in reference to both the bearing races and the propeller and pulley. Make a note of the clearance between the propeller and the frame.
2. Remove the pulley.
3. Remove the propeller from the shaft. A two-jaw puller may be needed to remove the propeller from the shaft.
4. Remove the bearing hold-down bolts. Remove the shaft and the bearings as one unit.
5. Remove the anti-corrosion coating from the shaft with a suitable degreaser.
6. Remove the bearing from the shaft using a bearing puller. If a bearing puller is not available, remove the bearing by using a wood block and hammer. An emery cloth or file may be needed to remove imperfections in the shaft left by the setscrews.
7. Clean the shaft and bearing bore thoroughly.
8. Place the bearings into position ensuring they are not on a worn section of the shaft. Tapping the

inner ring face with a soft driver may be required. Do not hammer on the housing.

9. The outer ring of the bearing is spherical and swivels in the housing to compensate for misalignment. Slightly tighten the hold down bolts.
10. Align the setscrews on the bearings and tighten one setscrew on each bearing.
11. Rotate the shaft to allow the bearing outer rings to find the center of free movement.
12. Install the propeller on the shaft and adjust the bearing position to center the propeller in the opening.
13. Tighten the hold-down bolts to the proper torque. Refer to the Torque Chart, page 4.
14. Turn the shaft by hand. Resistance should be the same as it was before the hold-down bolts were fully tightened.
15. Tighten the bearing setscrews to the specified torque.
16. Install the pulley and adjust the belt tension.
17. After 24 hours of continuous operation, tighten the setscrews to the appropriate torque. This assures the full locking of the inner race to the shaft. Ensure the socket key or driver is in good condition with no rounded corners. The key should be fully engaged in the setscrew and held squarely to prevent the rounding out of the setscrew socket when applying maximum torque.
18. Tighten the bearing setscrews to the specified torque.
19. Install the pulley and adjust the belt tension.
20. After 24 hours of continuous operation, tighten the setscrews to the appropriate torque. This assures the full locking of the inner race to the shaft. Ensure the socket key or driver is in good condition with no rounded corners. The key should be fully engaged in the setscrew and held squarely to prevent the rounding out of the setscrew socket when applying maximum torque.

Troubleshooting

Problem and Potential Cause

Low Capacity or Pressure

- Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.
- Poor fan inlet conditions. There should be a straight clear duct at the inlet.
- Improper propeller alignment.

Excessive Vibration and Noise

- Damaged or unbalanced propeller.
- Belts too loose; worn or oily belts.
- Speed too high.
- Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.
- Bearings need lubrication or replacement.
- Fan surge.

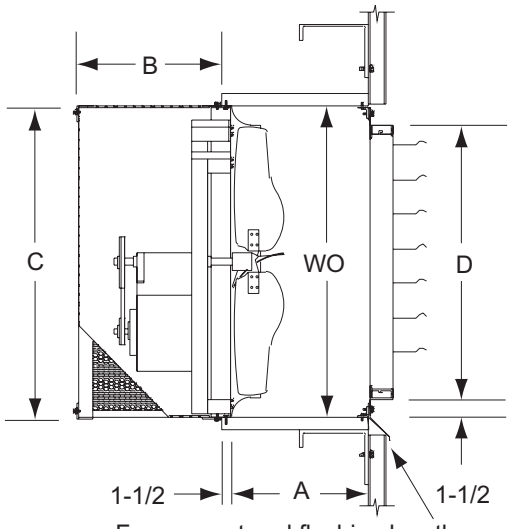
Overheated Motor

- Motor improperly wired.
- Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.
- Cooling air diverted or blocked.
- Improper inlet clearance.
- Incorrect fan RPMs.
- Incorrect voltage.
- Overheated Bearings
- Improper bearing lubrication
- Excessive belt tension.

Typical Installations (Dimensions are in inches)

Exhaust fan with OSHA wire guard & shutter

Illustrated is the typical installation of an exhaust wall fan with an OSHA wire guard and shutter in a steel structure with corrugated siding. The installer will provide a sleeve of suitable material to support the fan at a correct distance from the shutter (minimum distance is the “A” dimension).

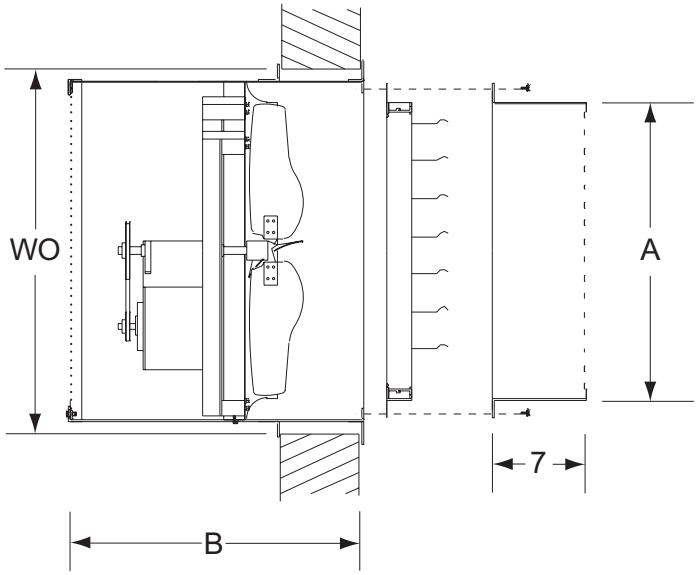


Fan support and flashing by others.

AWB AWD SWD	XLW XLWH XMW XMWH	EWB EWD	A	B	C	D	E	WO	
								Std. Fan	Wire Guard.
8	-	-	11	13	12-3/4	10	1	12-1/2	13-1/4
10-12	-	-	12	13	16-3/4	14	1	16-7/16	17-1/4
14-16	-	-	12	13	20-3/4	18	1	20-7/16	21-1/4
18-20	-	-	13	12	24-3/4	22	1	24-7/16	25-1/4
-	20	-	13	21	24-3/4	22	1	24-7/16	25-1/4
24	-	-	15	21	30-3/4	27	1-1/2	30-7/16	31-1/4
-	24	-	15	13	30-3/4	27	1-1/2	30-7/16	31-1/4
30	30	24	16	21	36-3/4	33	1-1/2	36-7/16	37-1/4
36	36	30	16	21	42-3/4	39	1-1/2	42-7/16	43-1/4
42	42	36	17	26	48-7/8	45	1-1/2	48-7/16	49-1/4
48	48	42	17	26	54-7/8	51	1-1/2	54-7/16	55-5/16
-	54	48	17	28	60-7/8	57	1-1/2	60-7/16	61-5/16
-	60	54	17	28	66-7/8	63	1-1/2	66-7/16	67-1/2
-	-	60	17	28	72-7/8	69	1-1/2	72-7/16	73-1/2
-	-	72	17	31	84-7/8	81	1-1/2	84-7/16	85-1/2

Exhaust package fan with shutter guard

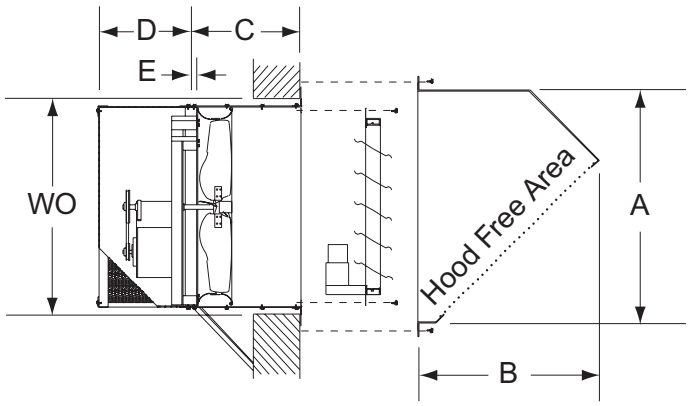
Illustrated is the typical installation of an exhaust PAC-Fan in a masonry wall with a shutter guard. The installer provides suitable fasteners (Hex bolts or Lag screws) to support the fan. It is recommended that 5/16” minimum bolts on 6” to 10” centers be used on the perimeter of the housing. Mounting flange should be caulked to exterior of the wall. Fans with motors in excess of 80 lbs. should be additionally supported by hanging rods or supports placed underneath the fan.



APB, APD, SPD	XLP, XLPH, XMP, XMPH	EPB, EPD	A	B-Direct	B-Belt	WO
8	-	-	10-5/8	13-5/8	-	13-1/4
10-12	-	-	14-5/8	17-5/8	-	17-1/4
14-16	-	-	18-5/8	20	-	21-1/4
18-20	20	-	22-5/8	22	34-1/4	25-1/4
24	24	-	27-7/8	23	34-1/4	31-1/4
30	30	24	33-7/8	24-3/8	37-7/8	37-1/4
36	36	30	39-7/8	28-3/8	39-3/8	43-1/4
42	42	36	45-7/8	33-5/8	40-5/8	49-1/4
48	48	42	51-7/8	39-5/8	50-5/8	55-5/16
-	54	48	57-7/8	40-1/8	47-3/4	61-5/16
-	60	54	63-7/8	44-3/4	47-3/4	67-1/2
-	-	60	69-7/8	-	47-3/4	73-1/2
-	-	72	81-7/8	-	50-3/4	85-1/2

Supply fan with wall collar, OSHA wire guard, motorized supply shutter & weather hood

Illustrated is the typical installation of a supply wall fan in a masonry wall with a wall collar, OSHA wire guard, motorized supply shutter and weather hood. The installer provides suitable fasteners to support the fan. Fasteners should be placed on 6” to 10 centers on the perimeter of the wall collar. Wall collar should be caulked to the exterior of the wall. The weather hood should be securely fastened and sealed to the wall. Fans with motors in excess of 80 lbs. should be additionally supported by hanging rods or supports placed underneath the fan.

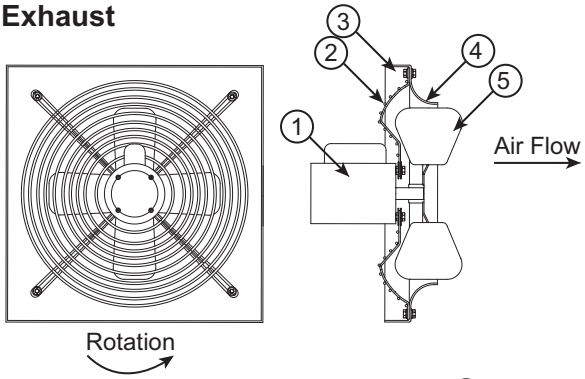


AWB AWD SWD	XLW XLWH XMW XMWH	EWB EWD	A	B	C	D	E	WO
8	-	-	18	16	12	13	1	13-1/4
10-12	-	-	22	18-3/4	14-3/8	13	1	17-1/4
14-16	-	-	26	21-3/4	15-3/8	13	1	21-1/4
18-20	-	-	30	24-1/2	17-5/8	13	1	25-1/4
-	20	-	30	24-1/2	17-5/8	21	1	25-1/4
24	-	-	30	24-1/2	17-5/8	13	1-1/2	31-1/4
-	24	-	34	27-1/4	18-3/4	21	1-1/2	31-1/4
30	30	24	40	31-1/2	18-3/4	21	1-1/2	37-1/4
36	36	30	46	35-3/4	19-1/2	21	1-1/2	43-1/4
42	42	36	52	40	19-1/2	26	1-1/2	49-1/4
48	48	42	58	44-1/4	19-3/4	26	1-1/2	55-5/16
-	54	48	64	48-1/2	19-3/4	28	1-1/2	61-5/16
-	60	54	70	52-3/4	19-3/4	28	1-1/2	67-1/2
-	-	60	76	57	19-3/4	28	1-1/2	73-1/2
-	-	72	88	67-1/2	19-3/4	31	1-1/2	85-1/2

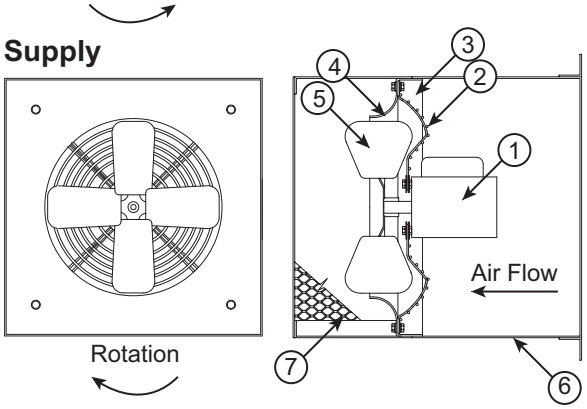
Parts List

XWD & SWD

Exhaust



Supply

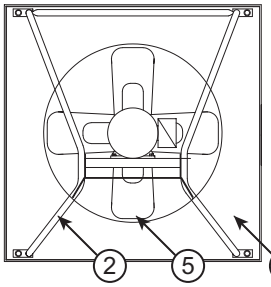


Part	Description	Part	Description
1	Motor	5	Stamped Aluminum Propeller
2	Wire Guard	6	Wall Collar
3	Wall Base	7	End Wire Guard
4	Venturi		

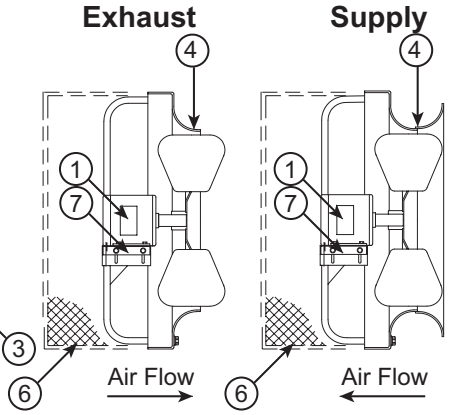
Note: Since 2012, the venturi and base are one piece.

XWHD

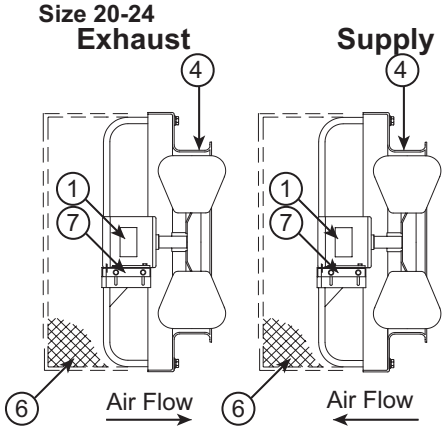
Exhaust Rotation



Size 12-18



Size 20-24

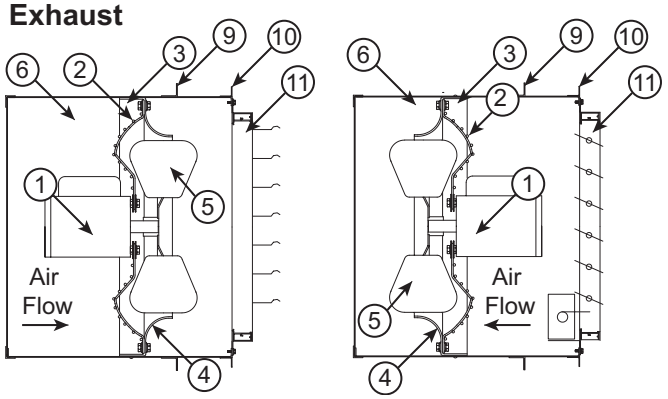


Part	Description
1	Motor
2	Power Assembly
3	Wall Base
4	Venturi
5	Stamped Aluminum Propeller
6	End Wire Guard
7	Motor Plate

Note: Since 2012, the venturi and base are one piece.

XPD & SPD

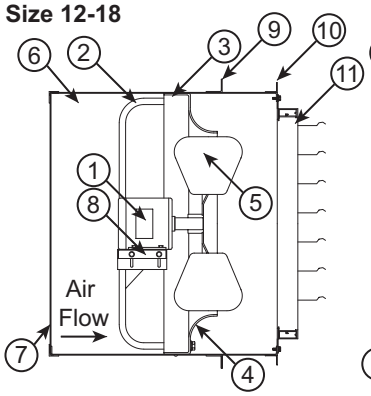
Exhaust



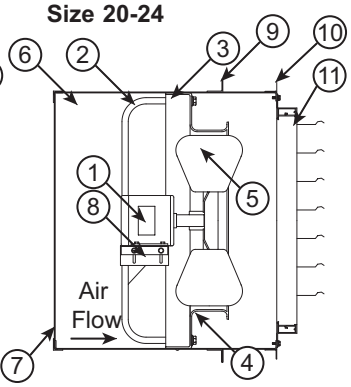
XPHD

Exhaust

Size 12-18

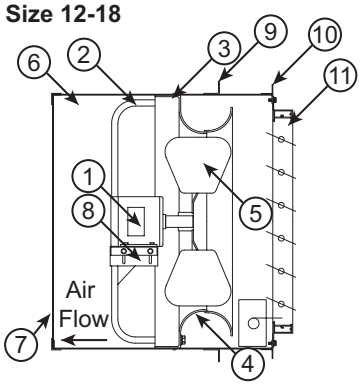


Size 20-24

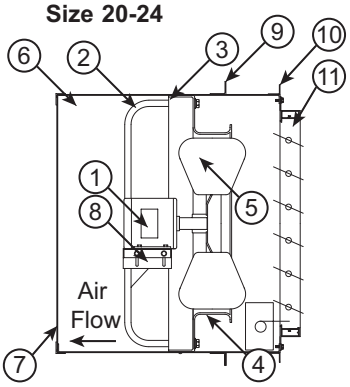


Supply

Size 12-18



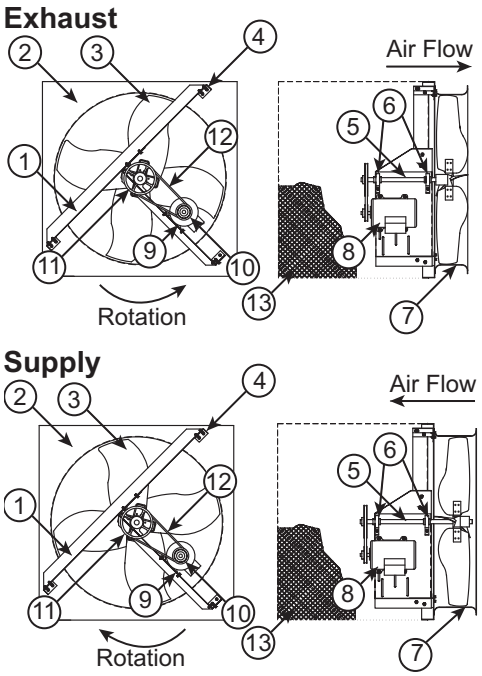
Size 20-24



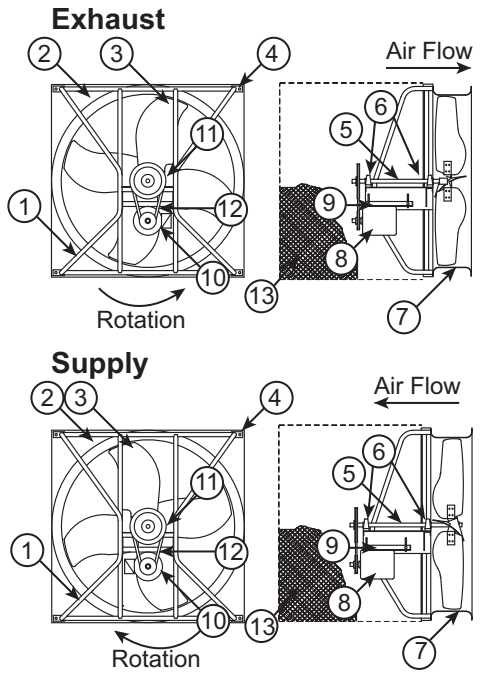
Part	Description	
	XPD SPD	XPHD
1	Motor	
2	Wire Guard	Power Assembly
3	Wall Base	
4	Venturi	
5	Stamped Aluminum Propeller	
6	Fan Box Panels	
7		End Wire Guard
8	-	Motor Plate
9	Mounting Collar Angles (4)	
10	Anchor Angles (2)	
11	Shutter Assembly	

Note: Since 2012, the venturi and base are one piece.

XLW / XMW



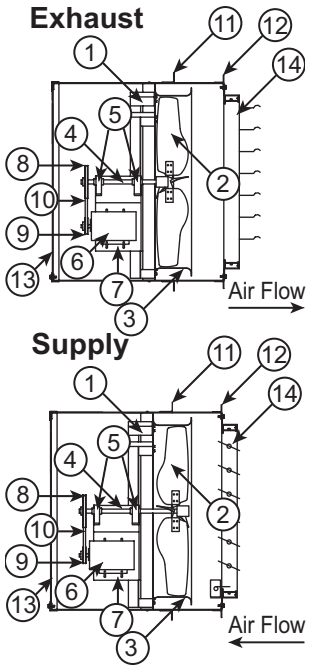
XLWH / XMWH



Part	Description	Part	Description
1	Power Assembly Rail	8	Motor
2	Base	9	Motor Plate
3	Prop	10	Drive Sheave
4	Power Assembly Feet (3)	11	Driven Sheave
5	Shaft	12	Belt
6	Bearings (2)	13	End Wire Guard
7	Venturi		

Note: Since 2012, the venturi and base are one piece.

XLP / XLPH / XMP / XMPH

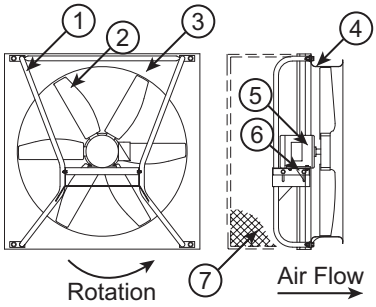


Part	Description
1	Base
2	Prop
3	Venturi
4	Shaft
5	Bearings (2)
6	Motor
7	Motor Plate
8	Driven Sheave
9	Drive Sheave
10	Belt
11	Mounting Collar Angles (4)
12	Anchor Angles (2)
13	End Wire Guard
14	Shutters

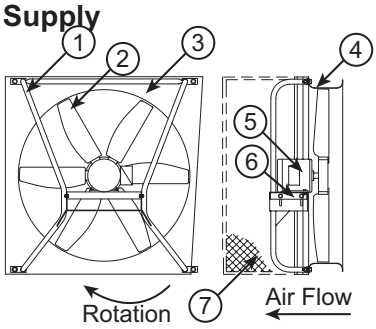
Note: Since 2012, the venturi and base are one piece.

AWD

Exhaust

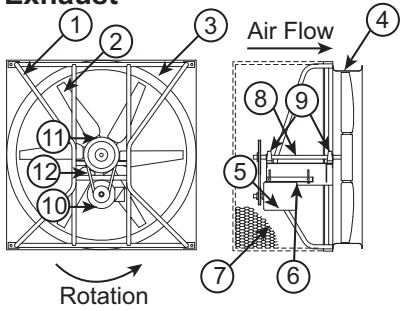


Supply

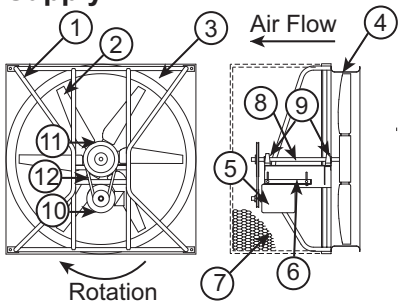


AWB

Exhaust



Supply

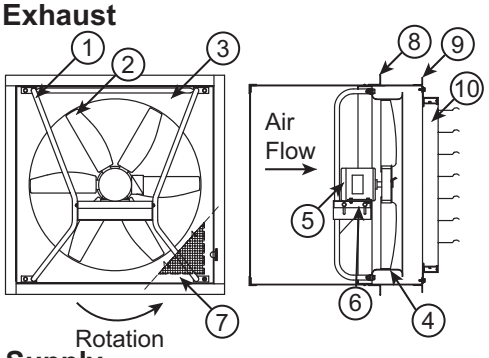


Part	Description
1	Power Assembly
2	Prop
3	Base
4	Venturi
5	Motor
6	Motor Plate
7	Wire Guard
8	Shaft
9	Bearings
10	Driver Sheave
11	Belt
12	Driven Sheave

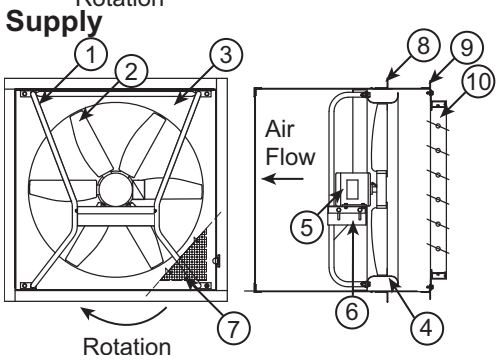
Note: Since 2012, the venturi and base are one piece.

APD

Exhaust

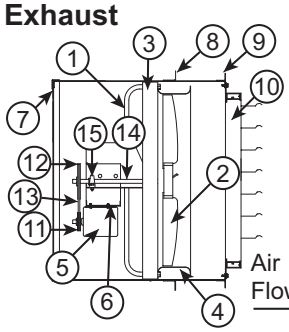


Supply

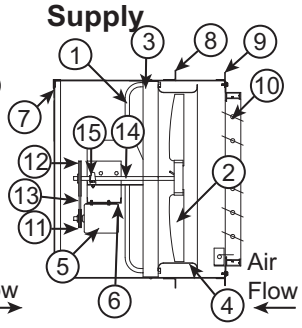


APB

Exhaust



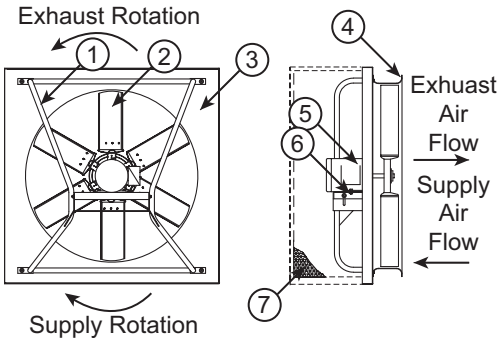
Supply



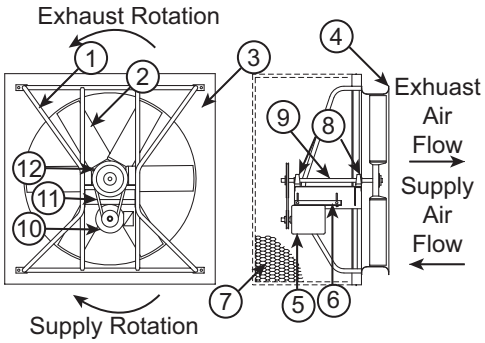
Part	Description		Description
1	Power Assembly	10	Shutters
2	Prop	11	Driven Sheave
3	Base	12	Driver Sheave
4	Venturi	13	Belt
5	Motor	14	Shaft
6	Motor Plate	15	Bearings
7	Wire Guard		
8	Mounting Collar Angles (4)		
9	Anchor Angles (2)		

Note: Since 2012, the venturi and base are one piece.

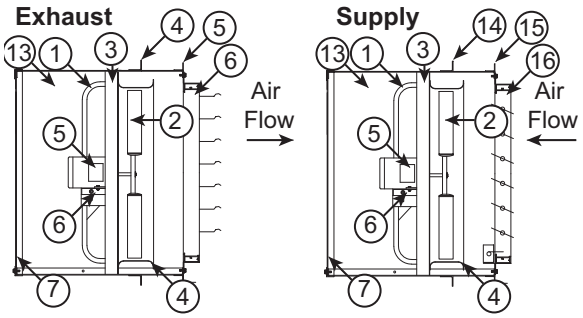
EWD



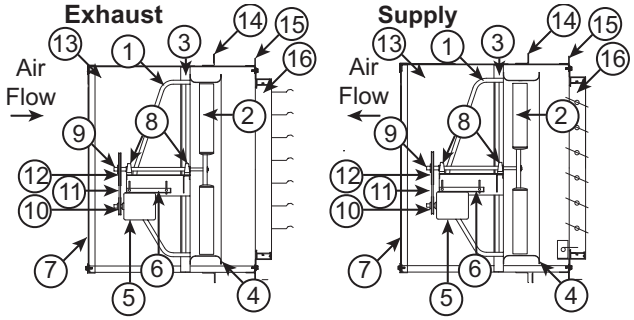
EWB



EPD

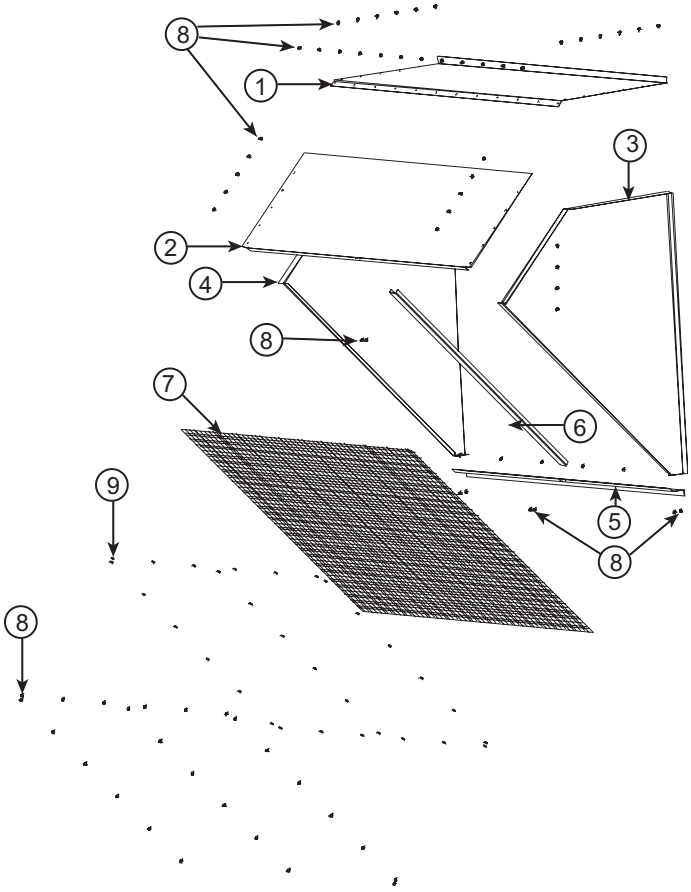


EPB



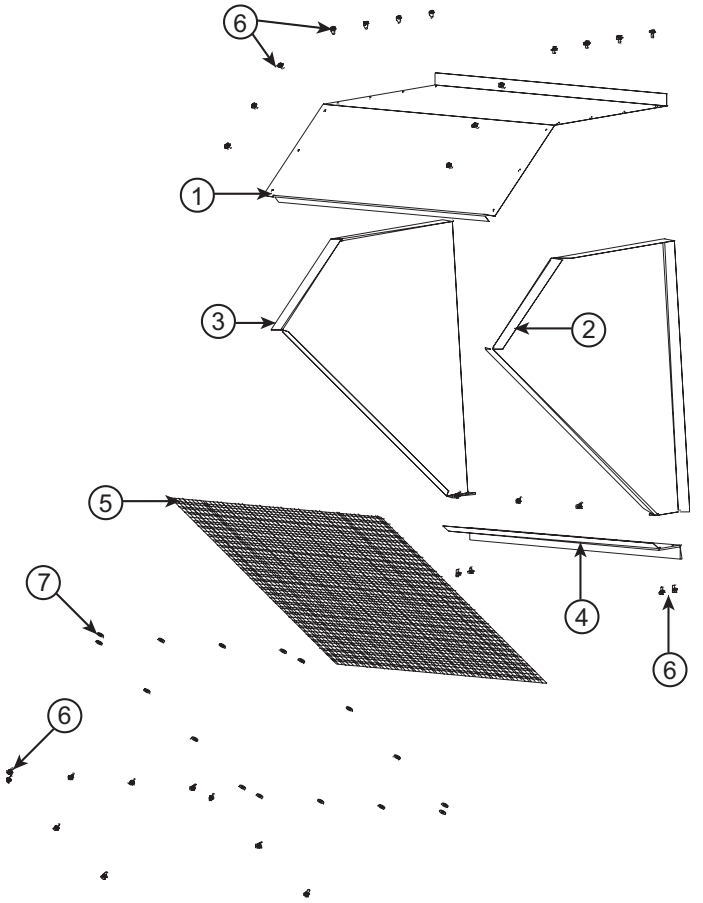
Part	Description		Description
v	Power Assembly	10	Driver Sheave
2	Prop	11	Belt
3	Base	12	Driven Sheave
4	Venturi	13	Fan Box Panels
5	Motor	14	Mounting Collar Angles (4)
6	Motor plate	15	Anchor Angles (2)
7	End Wire Guard	16	Shutters
8	Bearing	Note: Since 2012, the venturi and base are one piece.	
9	Shaft		

Weather Hood Size 36 to 60



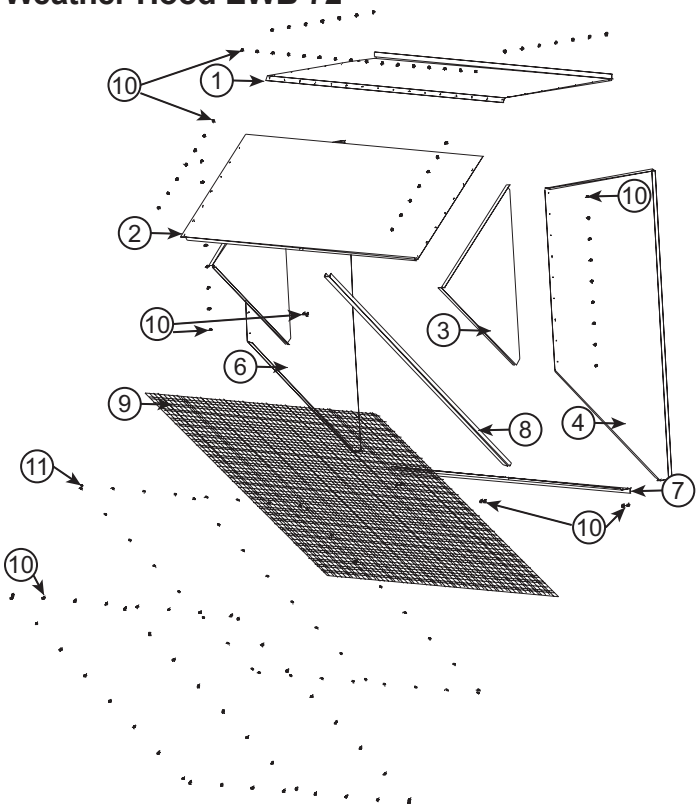
Part	Description		Description
1	Top Panel, Piece 1	6	Bird Screen Support
2	Top Panel, Piece 2	7	1/2” Mesh Galvanized Bird Screen
3	Right Side Panel	8	1/4” X 1/2” Speed Screw
4	Left Side Panel	9	5/16 SAE Steel Washer
5	Bottom Panel		

Weather Hood Size 8 to 30



Part	Description		Description
1	Top Panel	5	1/2” Mesh Galvanized Bird Screen
2	Right Side Panel	6	1/4” X 1/2” Speed Screw
3	Left Side Panel	7	5/16 SAE Steel Washer
4	Bottom Panel		

Weather Hood EWB 72



Part	Description	Part	Description
1	Top Panel, Piece 1	7	Bottom Panel
2	Top Panel, Piece 2	8	Bird Screen Support
3	Right Side Panel Tip	9	1/2” Mesh Galvanized Bird Screen
4	Right Side Panel	10	1/4” X 1/2” Speed Screw
5	Left Side Panel Tip	11	5/16 SAE Steel Washer
6	Left Side Panel		

Limited Warranty

Loren Cook Company warrants that your Loren Cook fan was manufactured free of defects in materials and workmanship, to the extent stated herein. For a period of one (1) year after date of shipment, we will replace any parts found to be defective without charge, except for shipping costs which will be paid by you.

This warranty is granted only to the original purchaser placing the fan in service.

This warranty is void if the fan or any part thereof has been altered or modified from its original design or has been abused, misused, damaged or is in worn condition or if the fan has been used other than for the uses described in the company manual. This warranty does not cover defects resulting from normal wear and tear.

To make a warranty claim, notify Loren Cook Company, General Offices, 2015 East Dale Street, Springfield, Missouri 65803-4637, explaining in writing, in detail, your complaint and referring to the specific model and serial numbers of your fan. Upon receipt by Loren Cook Company of your written complaint, you will be notified, within thirty (30) days of our receipt of your complaint, in writing, as to the manner in which your claim will be handled. If you are entitled to warranty relief, a warranty adjustment will be completed within sixty (60) business days of the receipt of your written complaint by Loren Cook Company.

This warranty gives only the original purchaser placing the fan in service specifically the right. You may have other legal rights which vary from state to state.

For fans provided with motors, the motor manufacturer warrants motors for a designated period stated in the manufacturer's warranty. Warranty periods vary from manufacturer to manufacturer. Should motors furnished by Loren Cook Company prove defective during the designated period, they should be returned to the nearest authorized motor service station. Loren Cook Company will not be responsible for any removal or installation costs.

LOREN COOK COMPANY

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Phone 417-869-6474 Fax 417-862-3820 lorencook.com